Potential for Infections

Infectious materials
- Any human body fluids such as: blood, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, semen, vaginal secretions, amniotic fluid, breast milk, and other fluids containing visible blood, unfixed organs, tissues, or body parts
- Transmission
  - Sharps injury, needlestick, cut, etc.
  - Splash onto a mucous membrane such as the eyes, mouth, or nose. Can also be transmitted through contact with broken skin including acne, clusters cuts, chapped or scraped skin, or sunburn

Bloodborne Pathogens (BBP)
- Infectious microorganisms that may be present in human blood and other potentially infectious materials (OPIM)
- Pathogens include: human immunodeficiency virus (HIV), Hepatitis B and C

Human Immunodeficiency Virus (HIV)
- The virus that causes AIDS (acquired immune deficiency syndrome).
- HIV is a virus that destroys the cells of the human immune system
- Transmission
  - Person to person through contact with body fluids
  - Symptoms start within the first few weeks of infection and disappear soon after
- Flu-like symptoms, fever, headache, and fatigue

Hepatitis B and C
- Viral diseases that cause inflammation of the liver, and can lead to diseases such as cirrhosis and cancer
- Hepatitis B (HBV)
  - Symptoms
    - Dark urine, light stools, jaundice, fatigue, fever, and flu-like symptoms
  - May dry and live on surfaces for one week or more
  - Can be prevented by vaccine, although there is no cure
- Hepatitis C (HCV)
  - Symptoms
    - Dark urine, light stools, jaundice, lack of appetite, fatigue, fever, and flu-like symptoms
  - People with chronic HCV may have no symptoms and live with an infection and not feel sick.
  - Can survive on dry surfaces and equipment for up to 6 weeks
  - There is no vaccine or cure, prevention is the only safeguard

Other diseases associated with human cells/tissues/blood
- Cytomegalovirus (CMV)
  - Common virus transmitted through human body fluids, such as blood saliva, and urine
  - Does not cause symptoms in most people
  - Once infected you remain infected for life
  - Can be hazardous during pregnancy and cause complications for an unborn child. Especially if infection occurs while pregnant
- Human Papillomavirus (HPV)
  - DNA virus that infects the skin and mucous membranes
  - Can cause warts, or have no symptoms
  - Persistent infection with some HPVs may progress to precancerous lesions and invasive cancer
- Epstein Barr virus (EBV)
  - Can cause infectious mononucleosis, with symptoms of sore throat, fever, and swollen lymph glands. Can be asymptomatic
  - Symptoms resolve although EBV can remain latent in cells for life
HOW TO PROTECT YOURSELF

Annual required Bloodborne Pathogens training
- Required for those at risk of exposure to infectious agents or materials, bloodborne pathogens, or human blood/tissue/cell culture/recombinant DNA, either in lab or clinic
- Access training through Skillsoft

Wash your hands
- Single most effective preventative measure
- Wash your hands with soap and water any time:
  - Your hands are soiled with blood, mucous, tissues, or other debris
  - Before putting gloves on
  - After removing gloves
  - After using the restroom
  - Before eating and drinking

Wear eye and face protection
- Eyes and mucous membranes are points of entry for BBPs
- In addition to lab coat and gloves, face protection is important to protect from potential exposure to BBPs
- Eye protection such as safety glasses or goggles should be worn at all times

Wear gloves
- Always wear gloves and discard them after each use
  - Never reuse or wash gloves
- Don’t touch unprotected skin, your clothing, or any environmental surfaces with contaminated gloves
- Remove gloves and wash hands before leaving the laboratory and before touching door handles, sink handles, or elevator buttons
- Gloves made of latex or nitrile can protect hands from contact with contamination but will not protect you from needles or other sharps

Wear protective clothing
- Protective clothing keeps blood and OPIM off of your personal or work clothing
- Wear suits or coveralls when splashing with contaminated liquid is anticipated

Follow proper exposure reporting protocols
- If you are injured on the job, promptly report the incident to your supervisor
  - Immediately call or email Occupational Health (303) 724-9145 during business hours
  - Outside of normal hours seek medical attention at emergency department or other healthcare provider
- Fill out incident report for exposure to biological hazards
- File a claim with University Risk Management
  - https://www.cu.edu/risk/file-claim
- Minor cuts and abrasions should be immediately cleansed with antibacterial soap
  - Protect injuries from exposure

Tell your physician you work with human cells, blood, or tissues
- Whenever you are ill, mention to your physician that you work with human cells, blood, and/or tissues
- Many infections have flu-like symptoms and it is important to seek a proper medical diagnosis if you believe you have been exposed at work

Additional Resources
- Bloodborne Pathogens Exposure Control Plan
- Bloodborne Pathogens, Exposure Control, and Hepatitis B Vaccination Policy

For more information, refer to the Occupational Health website
https://research.cuanschutz.edu/ehs/home/divisions/occupational-health

or contact Occupational Health at occupational.health@cuanschutz.edu